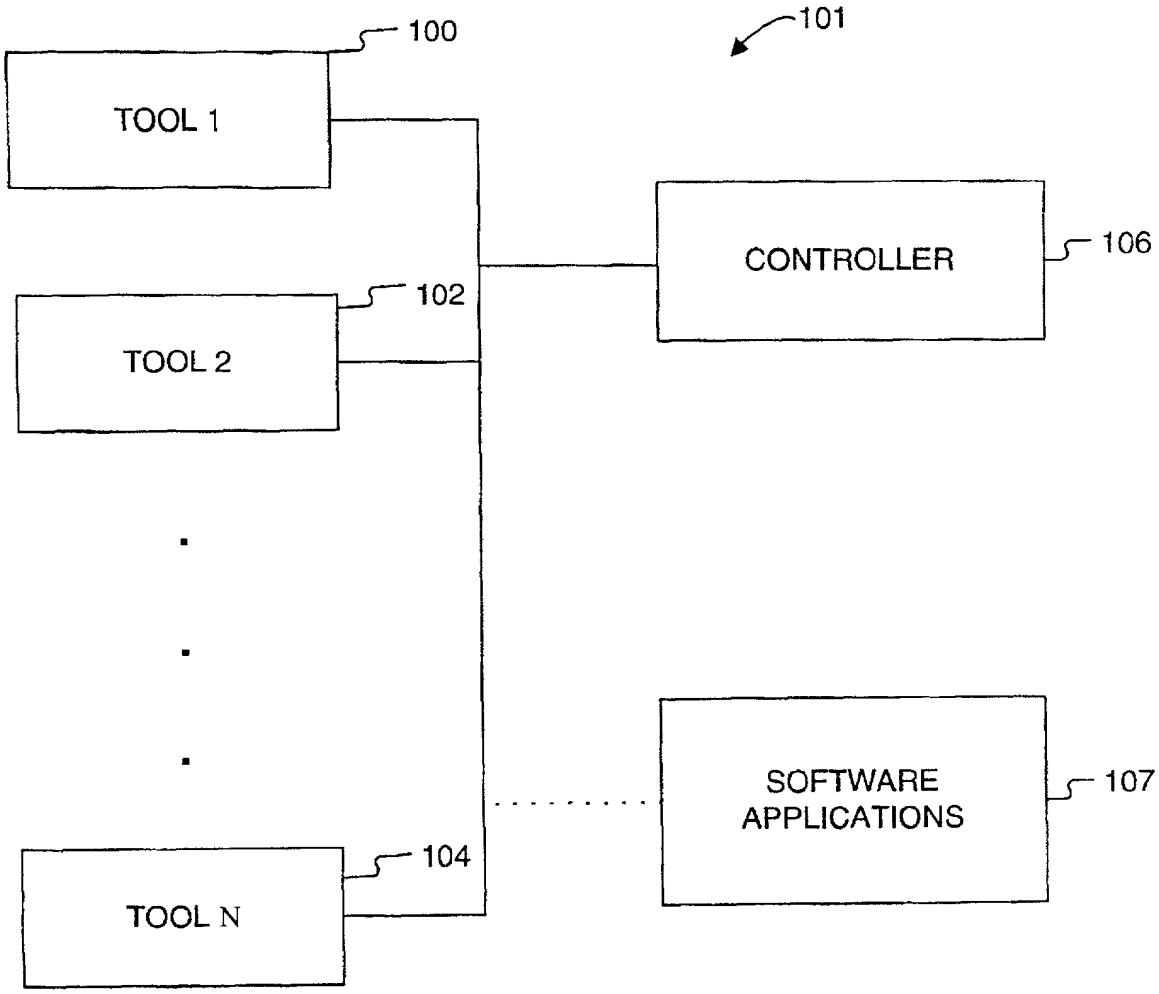


(Prior Art)

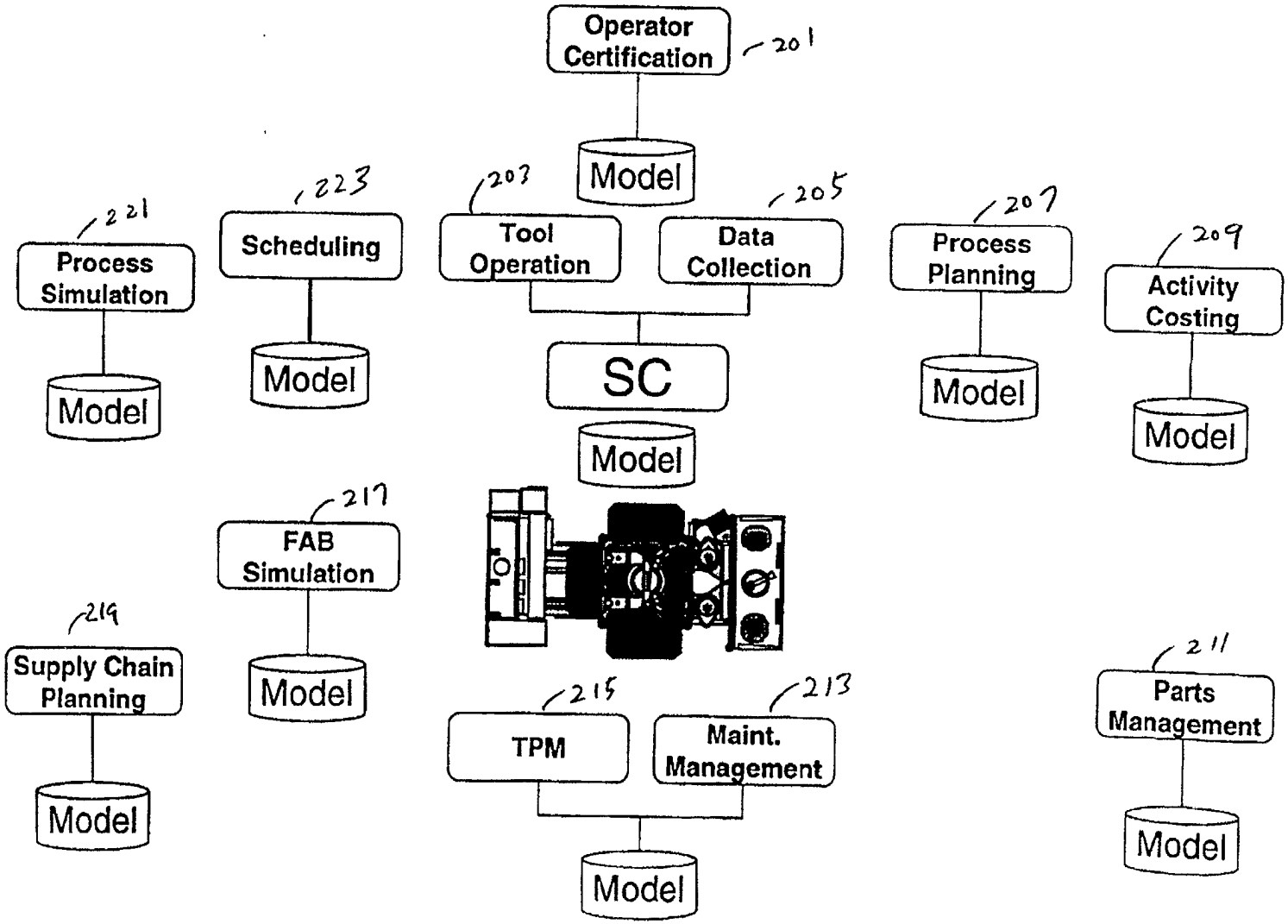
FIG. 1

TOST80 "Rec'd 2660

CONTROLLER/SOFTWARE APPLICATIONS

(PRIOR ART)

FIG. 2



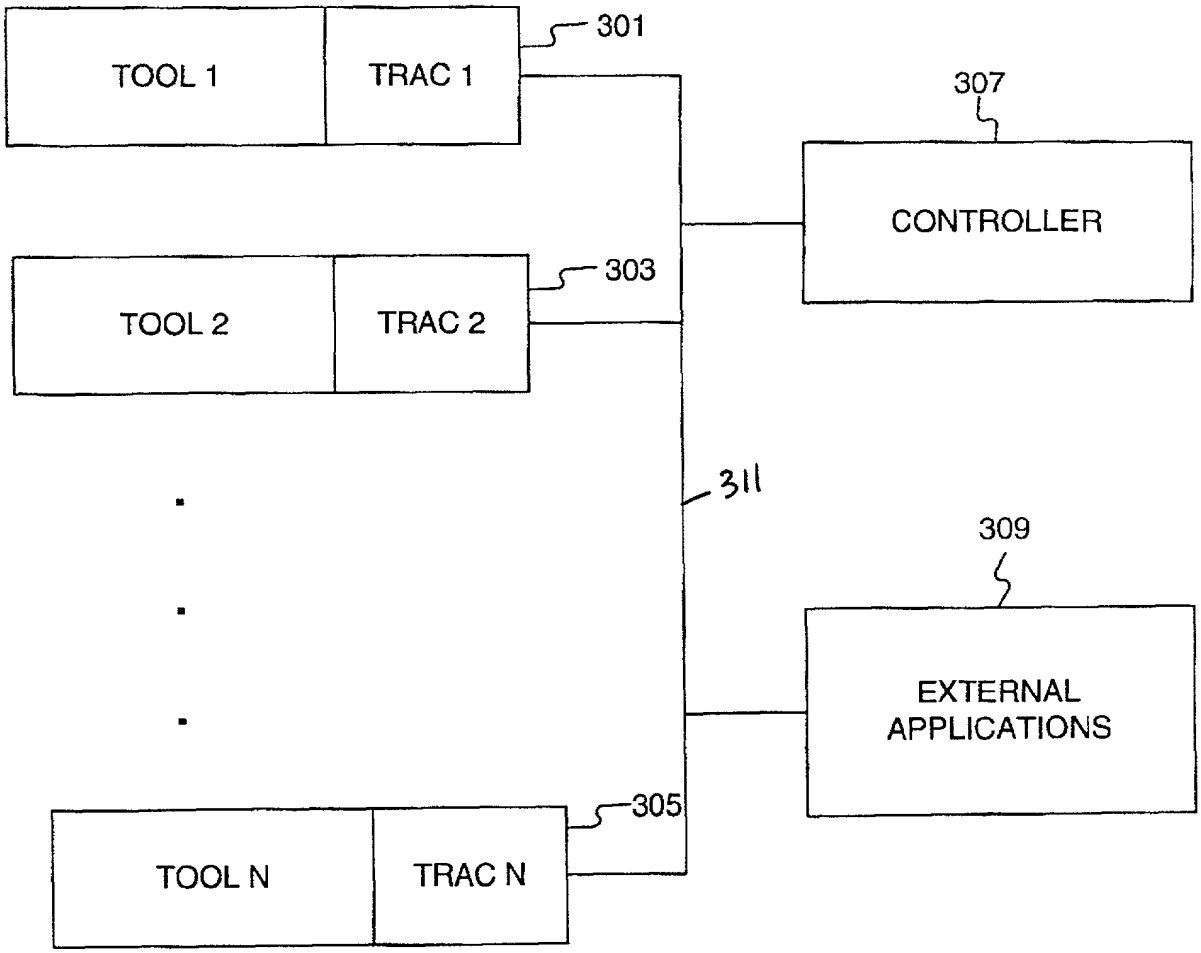

TOOL 1
TRAC 1
301
307
CONTROLLER
TOOL 2
TRAC 2
303
311
309
EXTERNAL APPLICATIONS
TOOL N
TRAC N
305

FIG. 3

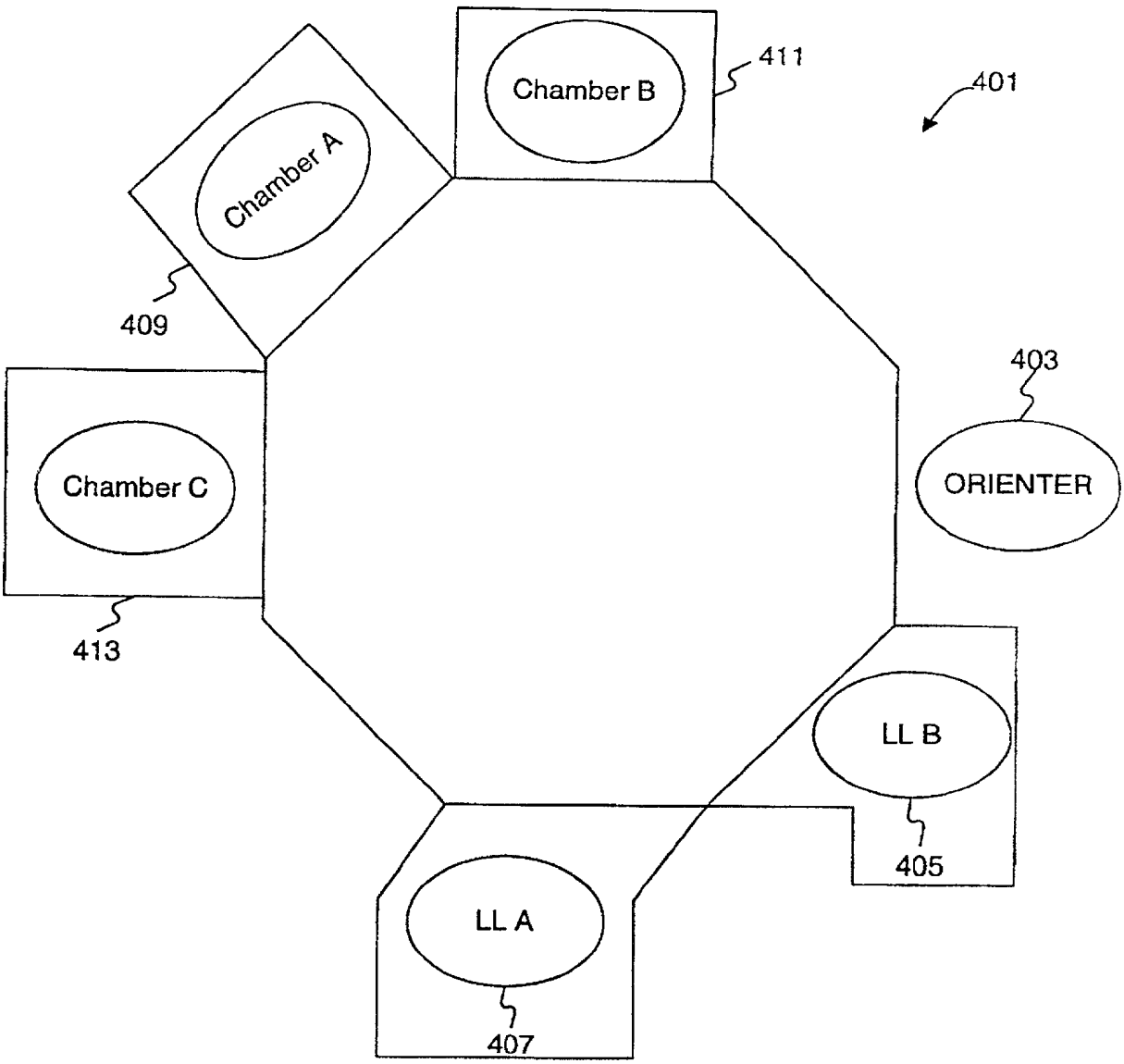

Chamber A
Chamber B
411
401
409
403
Chamber C
ORIENTER
413
LL B
405
LL A
407

FIG. 4

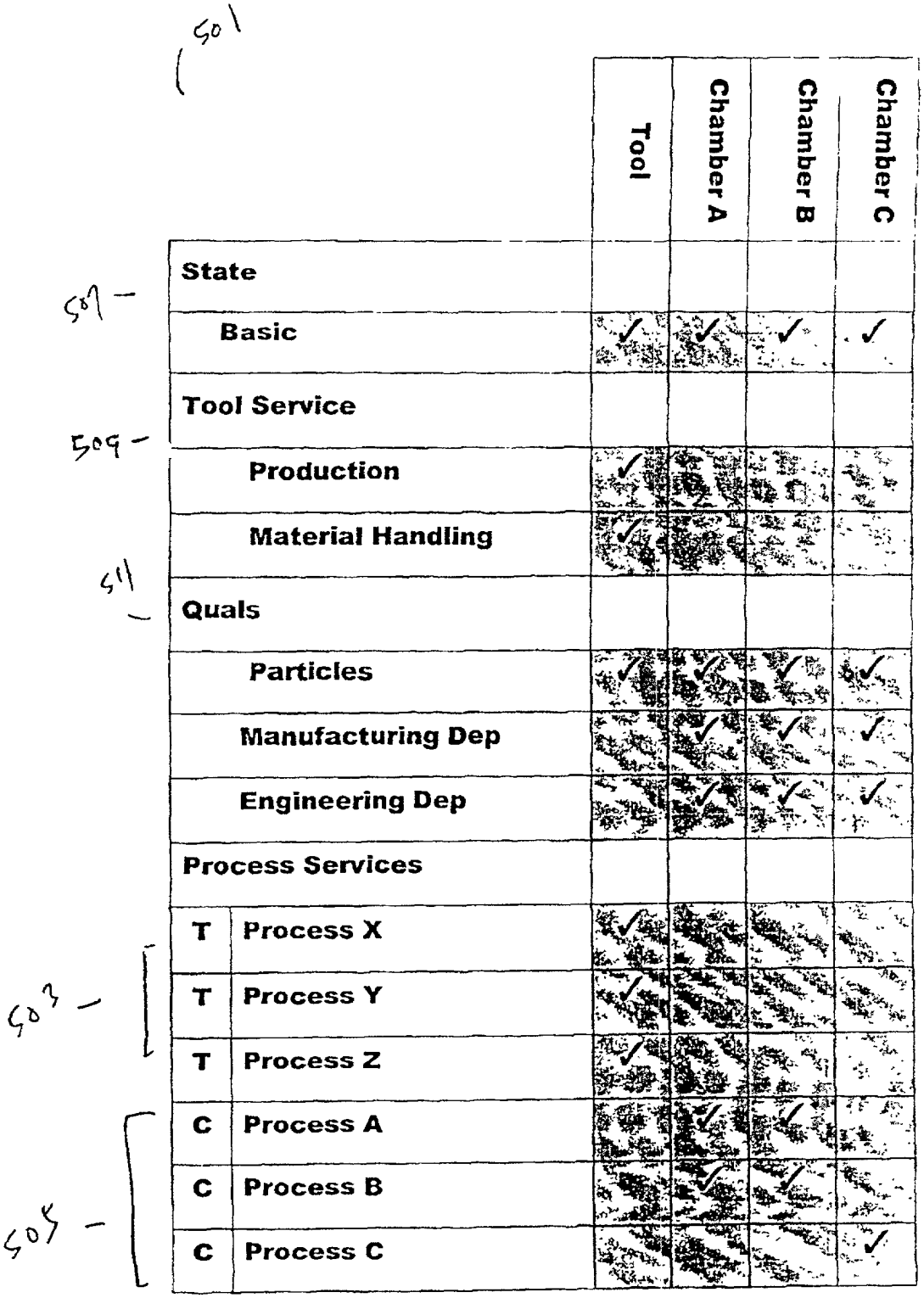

501
507
509
511
503
505
Tool
Chamber A
Chamber B
Chamber C
State
Basic
Tool Service
Production
Material Handling
Quals
Particles
Manufacturing Dep
Engineering Dep
Process Services
T Process X
T Process Y
T Process Z
C Process A
C Process B
C Process C

FIG. 5

FIG. 6

601

QoS - Cpk		Tool	Chamber A	Chamber B	Chamber C
Process Services					
	Process X				
	Process Y				
	Process Z				
	Process A		2.1	2.16	
	Process B		3.03	3.21	
	Process C				4.16

FIG. 7

701

QoS - Proc. Time		Tool	Chamber A	Chamber B	Chamber C
Process Services					
	Process X				
	Process Y				
	Process Z				
	Process A		42	43	
	Process B		36	41	
	Process C				130

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801

QoS - CPK		Tool 1	Tool 2	Tool 3	Tool 4
Process Services					
	Process X	2.35	2.1	2.16	X
	Process Y	3.41	3.03	3.21	X
	Process Z	X	4.19	4.21	4.16

FIG. 8

0602744A1 - 061501

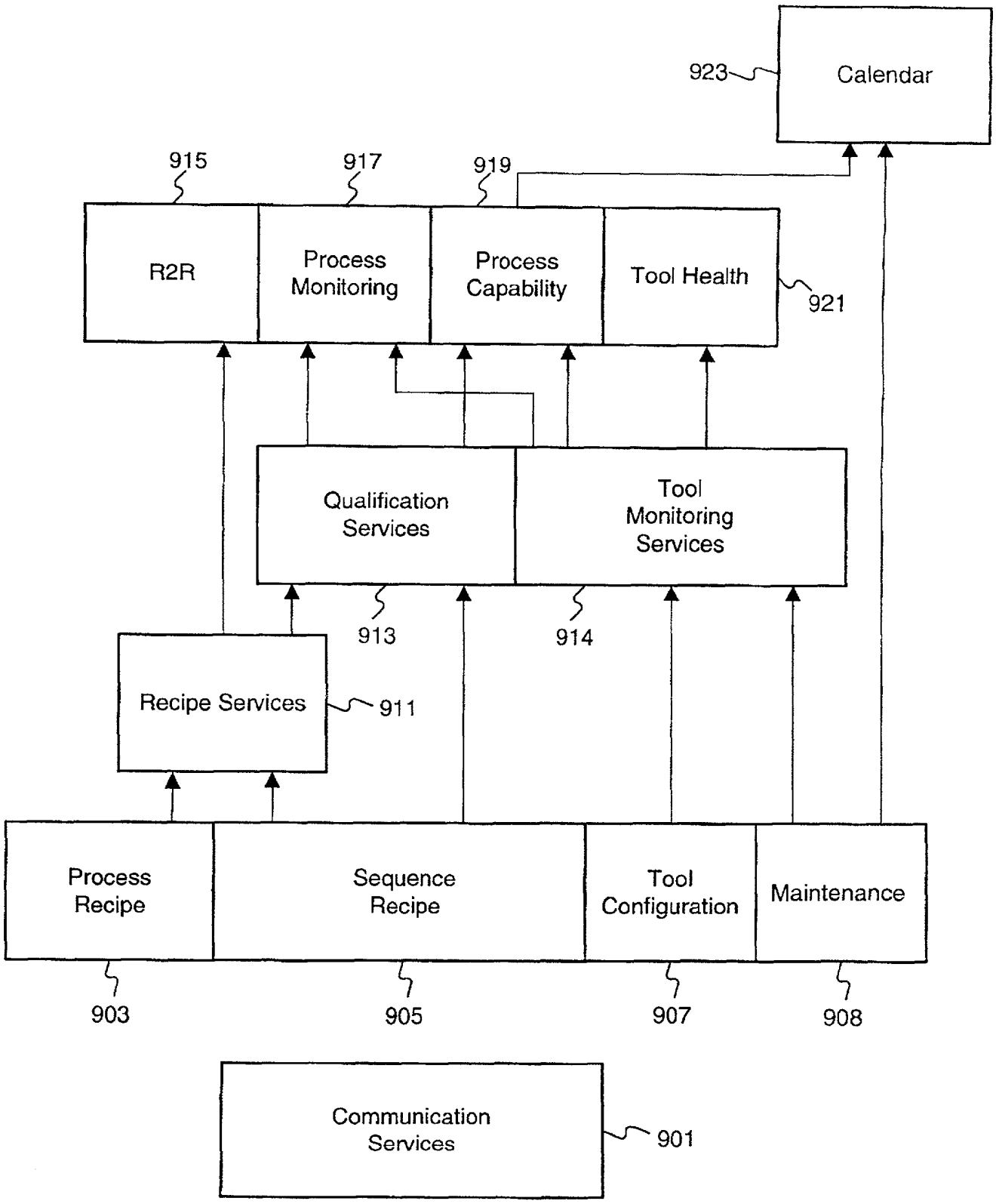

923
Calendar
915
917
919
R2R
Process Monitoring
Process Capability
Tool Health
921
Qualification Services
Tool Monitoring Services
913
914
Recipe Services
911
Process Recipe
Sequence Recipe
Tool Configuration
Maintenance
903
905
907
908
Communication Services
901

FIG. 9

TOET90 ttth<2660

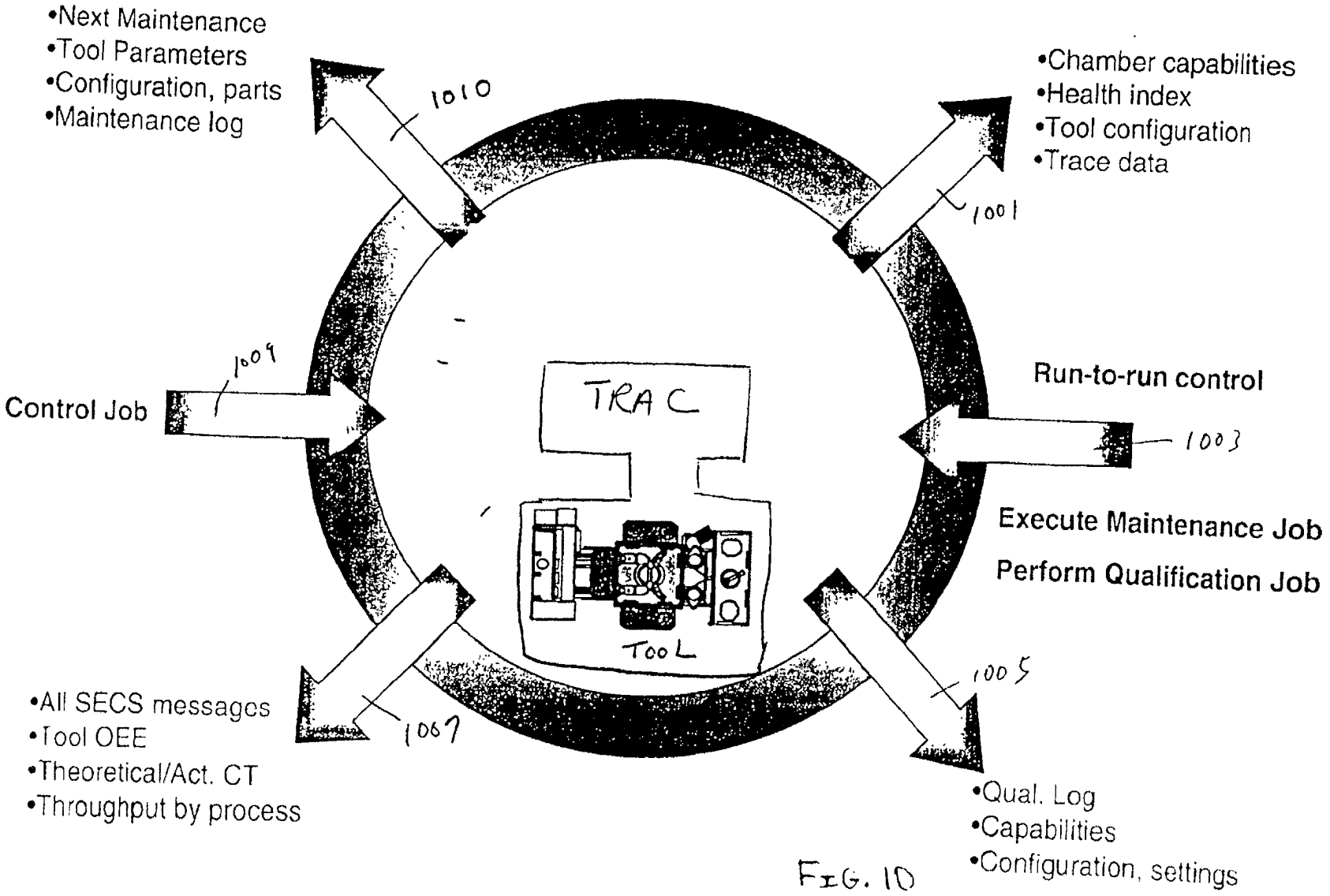
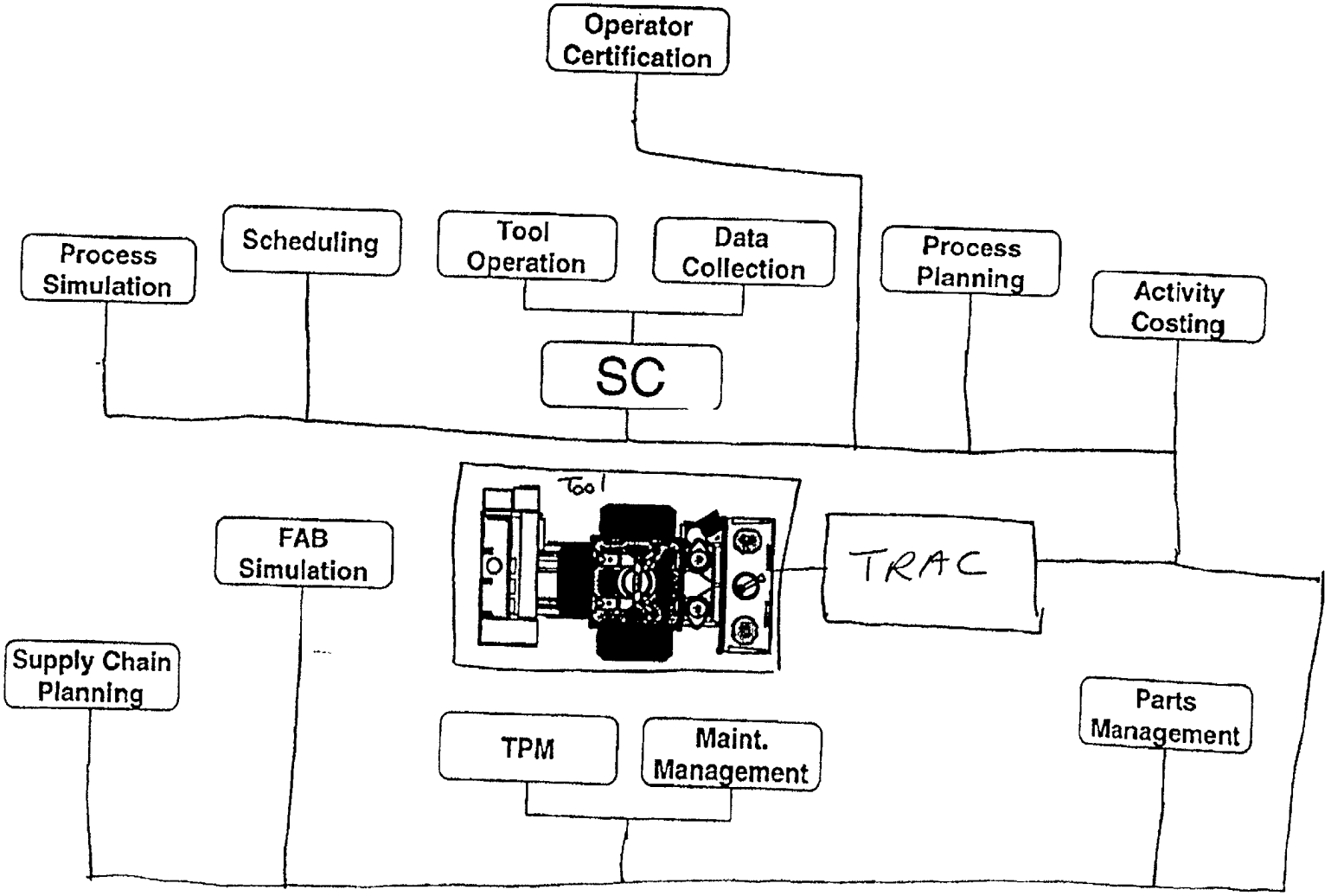


FIG. 10

TOSTBO" ttth<2660

CONTROLLER/SOFTWARE APPLICATIONS

Fig 11



09527446 - 061502

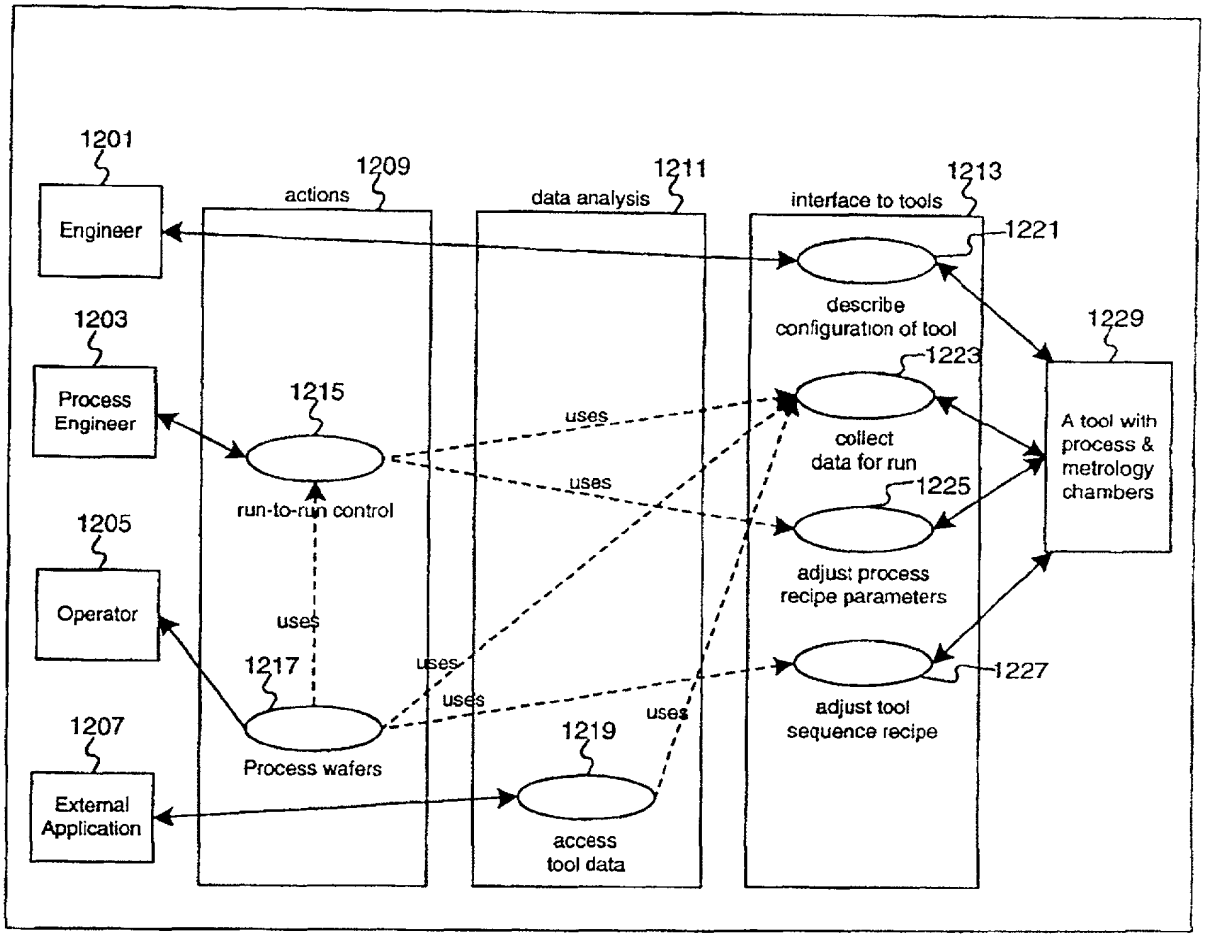


FIG. 12

0062744 - 063304

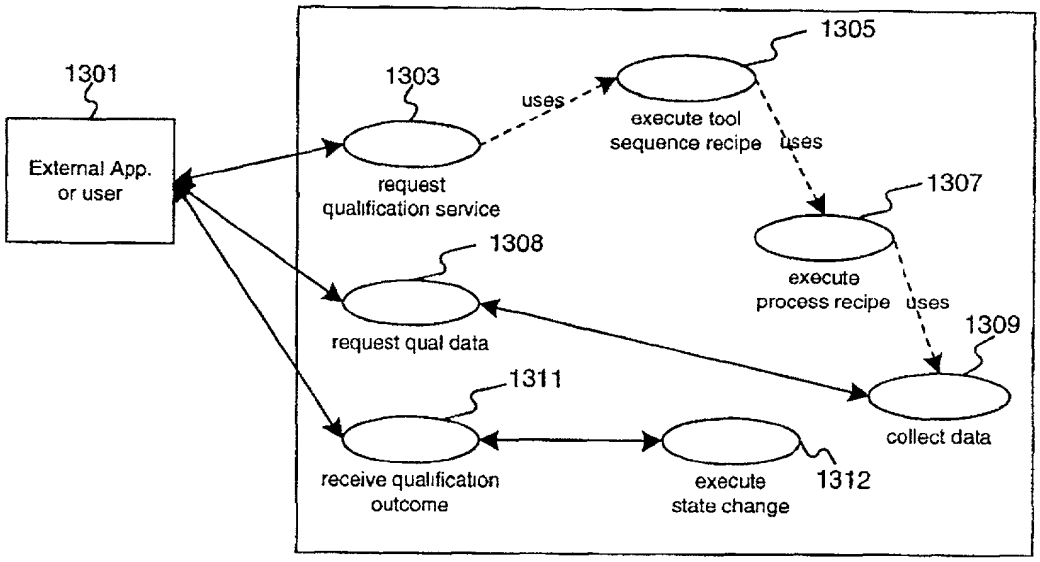


FIG. 13

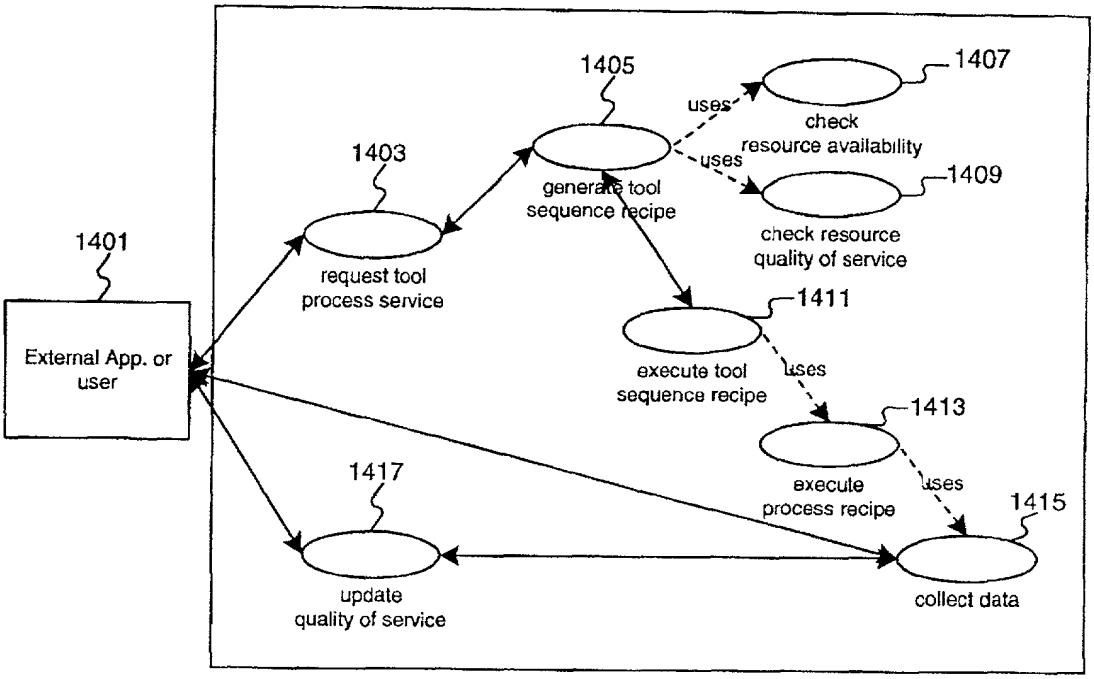

1401
External App. or user
1403
request tool process service
1405
generate tool sequence recipe
1407
check resource availability
uses
uses
1409
check resource quality of service
1411
execute tool sequence recipe
uses
1413
execute process recipe
uses
1415
collect data
1417
update quality of service

FIG. 14

US 6,594,536 B1

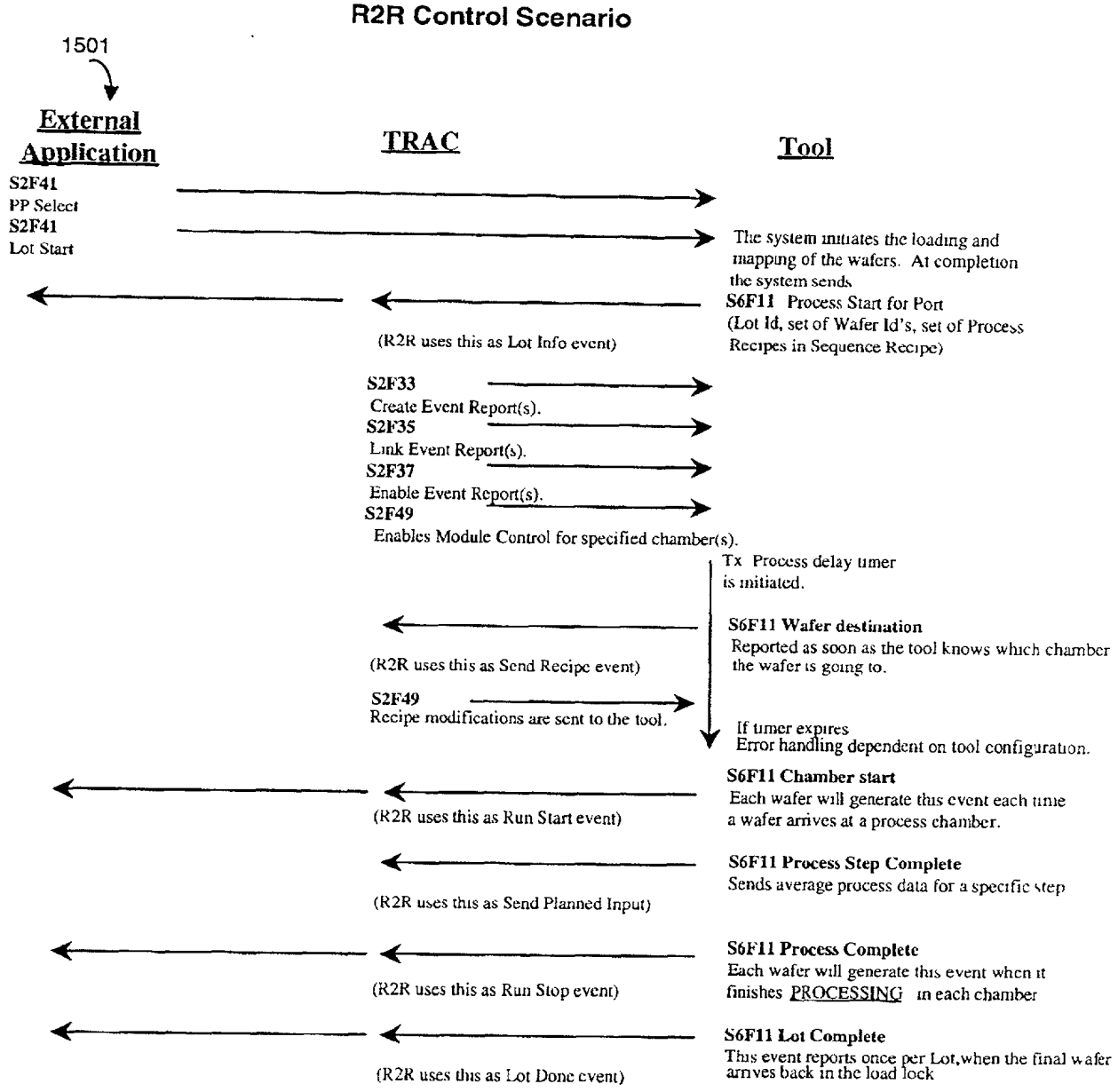


FIG. 15

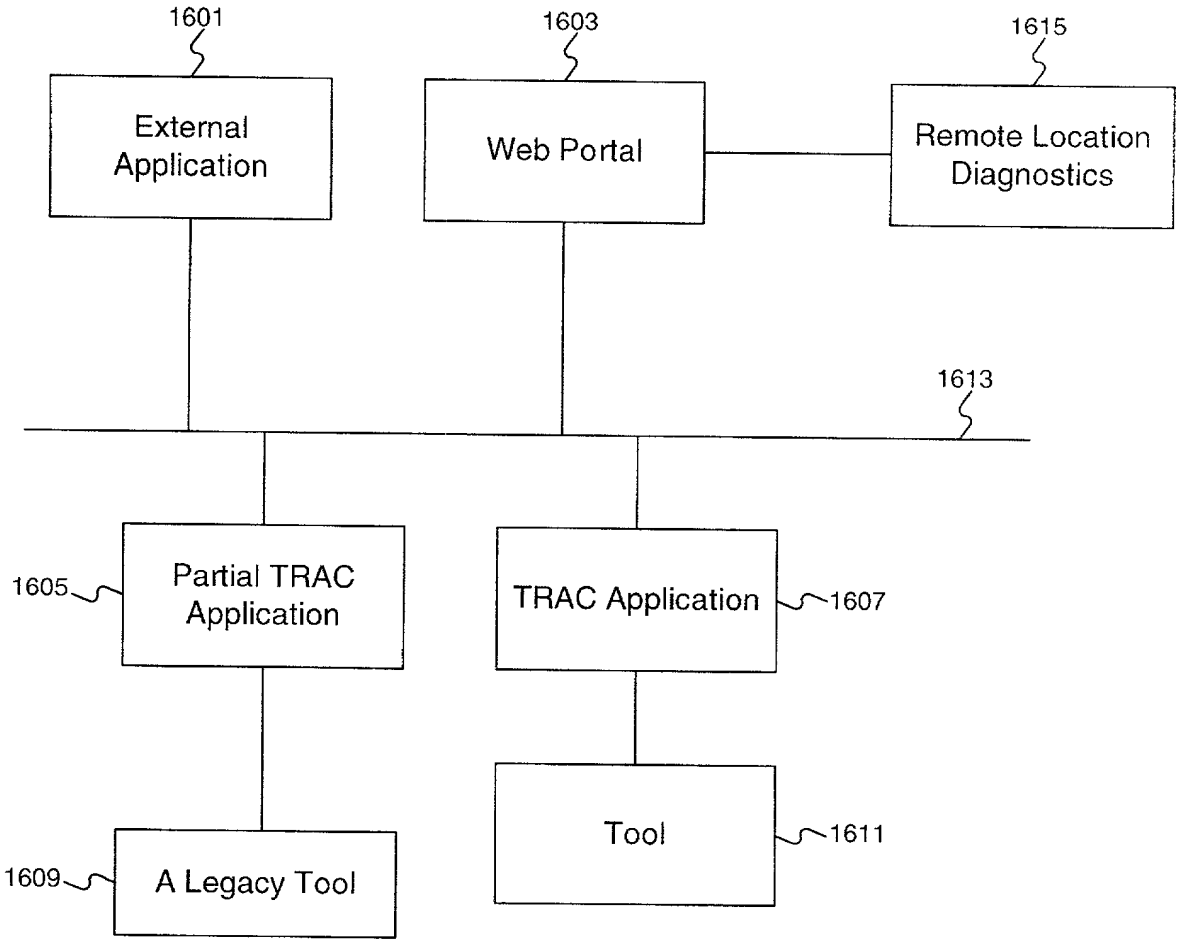

1601
External Application
1603
Web Portal
1615
Remote Location Diagnostics
1613
1605
Partial TRAC Application
TRAC Application
1607
1609
A Legacy Tool
Tool
1611

FIG. 16(a)

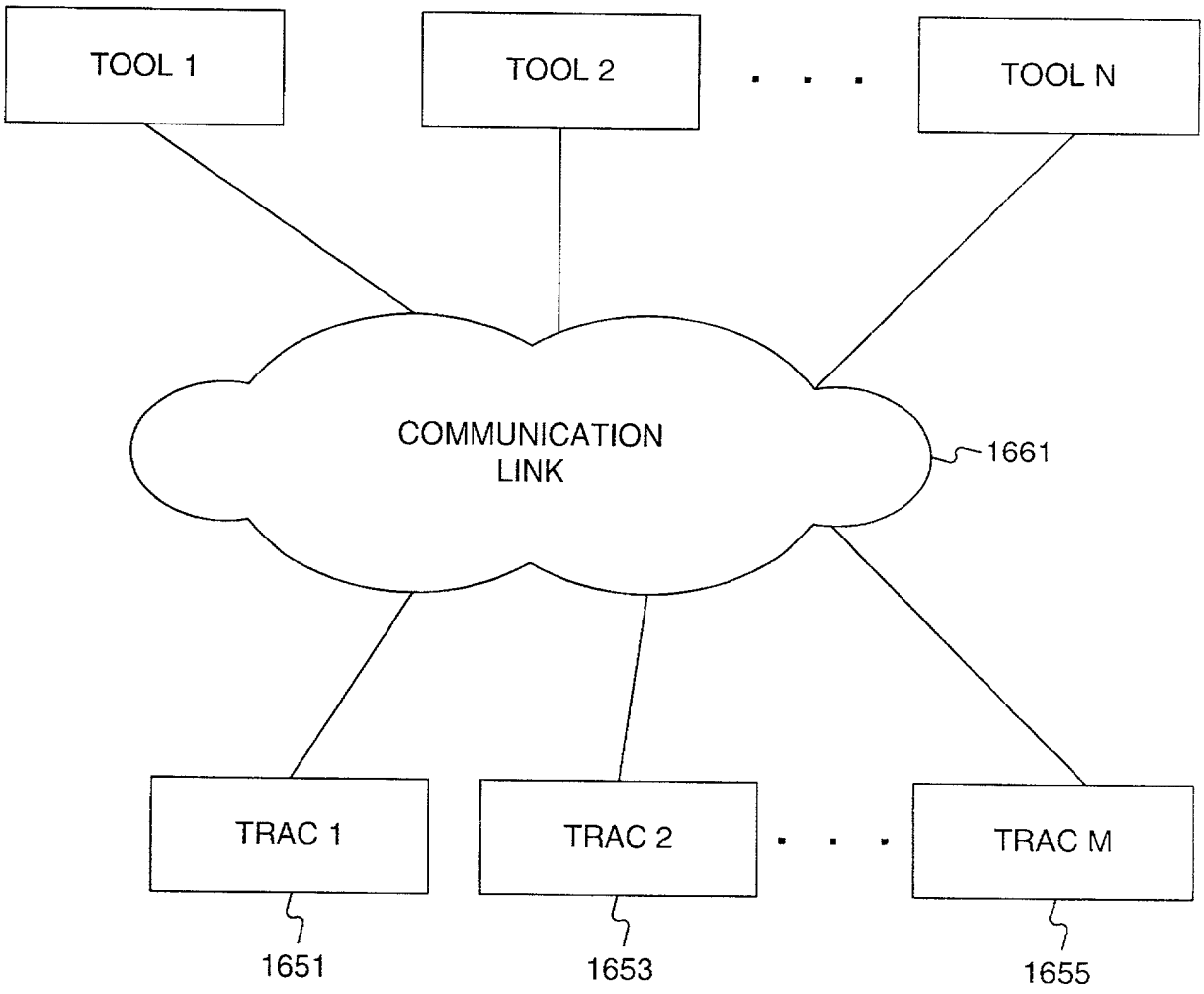

TOOL 1
TOOL 2
TOOL N
COMMUNICATION LINK
1661
TRAC 1
TRAC 2
TRAC M
1651
1653
1655

FIG. 16(b)

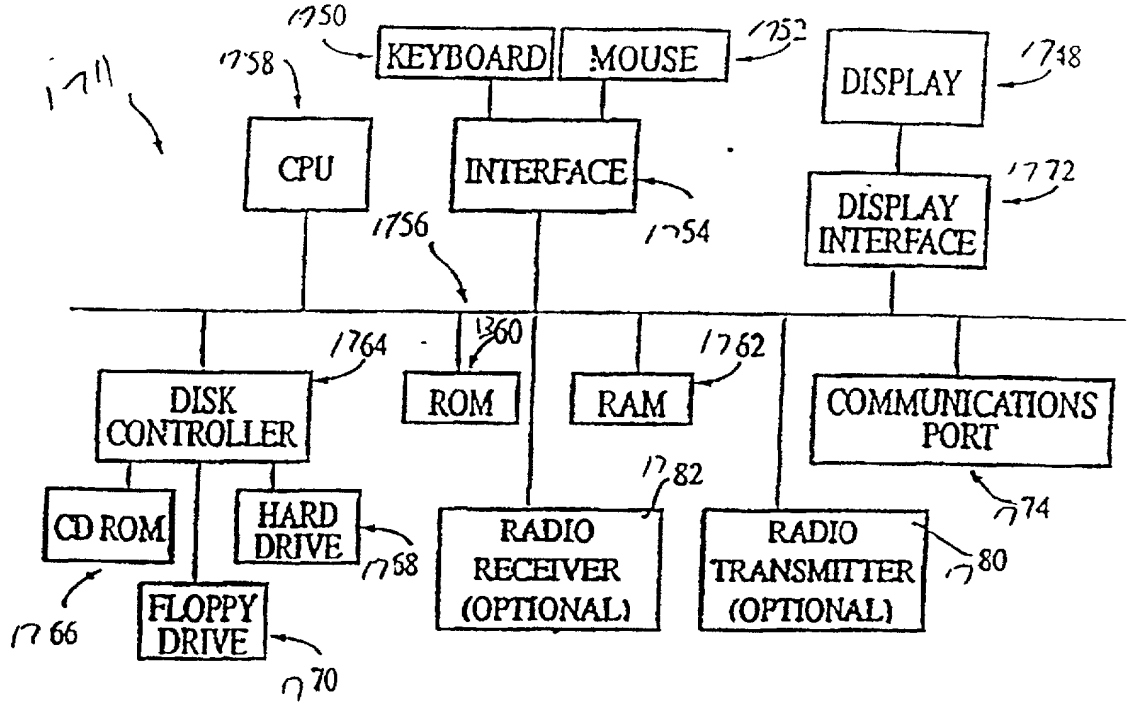


FIG. 17

09297444 - 083103

09527444 - 081503

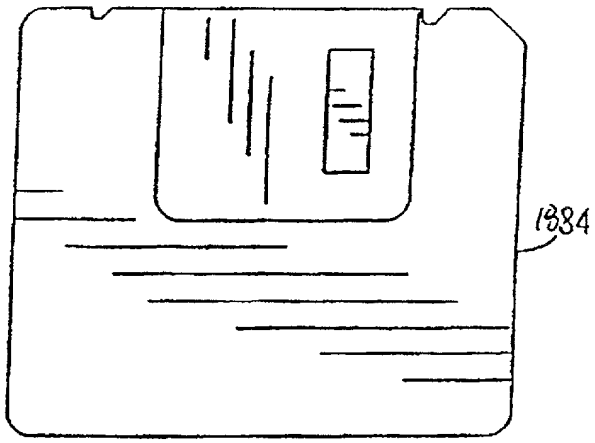


FIG. 18